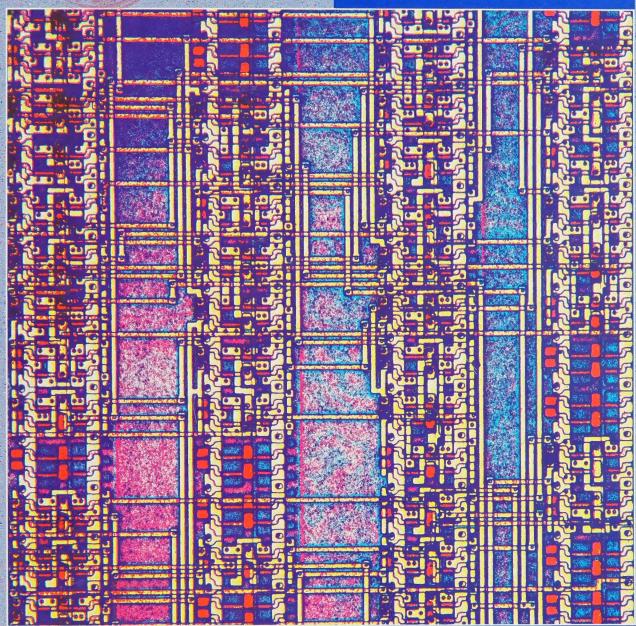


# 1 9 8 6 A N N U A L R E P O R T





# Cover Photo This integrated circuit was designed by Canadian Marconi engineers Paul Cimolai and Ian Grant at the Ontario Centre for Microelectronics, with the assistance of OCM engineer Walter Knitl.

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# CORPORATE DIRECTORY

#### **Board of Directors**

Chairman\*

Gordon W. Gow, President, Gandalf Systems Group, Ottawa

Directors\*\*

T.S. Allan, President, Control Data Canada Ltd., Mississauga

Archie Bowen, Professor, Systems and Computer Engineering Department, Carleton University, Ottawa

Michael Caughey, President, Cadence Computer Corporation, Ottawa

Wanda Dorosz, Vice President, NEXA Corporation, Mississauga

Sidney Handleman, Nepean

Richard McDonald, Bell-Northern Research, Ottawa

David Moore, President, Siltronics Ltd., Nepean

Glenn Pattinson, Vice President, Communications, Electronic, Electrical, Technical and Salaried Workers of Canada,

Toronto

Walter Pieczonka, President, Linear Technology Inc., Burlington

Graham Sadler, Vice President, Northern Telecom Electronics, Ottawa

Andrew Szonyi, Professor, Engineering and Management, University of Toronto, Toronto

Peter Vice, Lawyer, Vice & Hunter, Ottawa

Charles Williams, Mississauga

#### Committees of the Board

**Audit and Finance** 

Chair: Gordon W. Gow Members: Richard McDonald

David Moore

Peter Vice

Sidney Handleman

Technology

Chair: David Moore

Members: Walter Pieczonka

Archie Bowen Graham Sadler

Granam Sagier

Michael Caughey

Strategic Planning

Chair: Andrew Szonyi

Charles Williams

Members: T.S. Allan

Wanda Dorosz

Walter Pieczonka

Archie Bowen

Marketing

Chair: Andrew Szonyi

Members: Charles Williams

Michael Caughey

Wanda Dorosz

T.S. Allan

**Public Affairs** 

Chair: Richard McDonald

Members: Sidney Handleman

Peter Vice

Senior Management

Lionel Hurtubise, President

Glen Morrow, Vice President Finance and Administration,

Secretary-Treasurer

Karl Mayer, Vice President Technology

Ian Mumford, Vice President Corporate Affairs

Gary Gauthier, Manager Business Development

Auditors

Deloitte, Haskins & Sells

Chartered Accountants

Ottawa, Ontario

Corporate Counsel

Gowling & Henderson

Barristers and Solicitors

Ottawa, Ontario

**Principal Bankers** 

Bank of Nova Scotia

Ottawa, Ontario

<sup>\*</sup>Subsequent to year-end Mr. Gow retired from the Board and Mr. Williams was appointed Chairman.

<sup>\*\*</sup>During 1985/86 Messrs. Bowen, Caughey, Handleman and Pattinson retired from the Board. Appointed to the Board were John Bobak, Chairman and Vice President, ONCOURSE Learning Centres Inc., Ottawa; Richard Brock, President, Sutherland-Schultz Limited, Kitchener; Brian Riden, Vice President and General Manager, Bata Engineering, Batawa; and Roy Woodbridge, President, Canadian Advanced Technology Association, Ottawa.

# LETTER FROM THE CHAIRMAN

Honourable Hugh P. O'Neil, MPP Ontario Minister of Industry, Trade and Technology

Dear Sir:

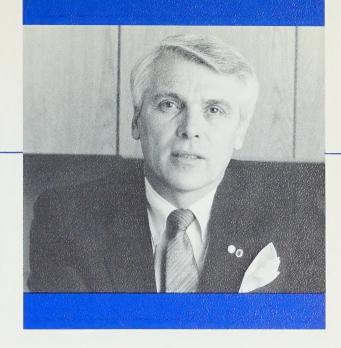
It is my pleasure on behalf of the Board of Directors to highlight in this Annual Report the continuing progress of the Ontario Centre for Microelectronics for the fiscal year ended March 31, 1986.

The year under review was unfolded amid one of the most challenging periods ever faced by Ontario industry. It's estimated that this Province's trade deficit in technology products is approaching \$7 billion annually, underscoring the urgent and growing long-term threat to Ontario's manufacturing base.

Technology is no longer solely in the domain of economically advanced nations. In certain areas of semiconductor technology, developing nations, particularly those in the Far East, have surpassed Canada.

The challenge for Ontario industry is to realize that it is the application of microelectronics and other technologies across the spectrum of traditional industries which holds the greatest promise for employment and general economic well-being.

In Ontario, OCM has been actively addressing these issues since its inception in 1982 by assisting mainly small and medium-sized firms to develop more competitive products through the application of microelectronics technology. This growing range of companies spans real estate, dairy farming, transportation, instrumentation, microcomputing, public health, ocean navigation, data communications, fish processing, equipment for the handicapped, harness racing, military communications and others.



Some are well-established firms. Others are startups. Some have staff engineers who need design assistance with more advanced forms of microelectronics such as application specific integrated circuits (ASICs). Others are new-comers to the technology who need an assessment on the technical feasibility of a product idea or the creative application of microprocessor technology to an existing product.

OCM, of course, is only the catalyst. The bottom line of the Centre's activities is the dimension for growth these products provide each firm and the ensuing prosperity for Ontario. It's pleasing to note that independent research confirms that the payback to the economy is already many times the Province's investment in the Centre.

Yet despite increasing success stories and support for microelectronics technology, the accelerating trade deficit in technology goods is a looming reminder Ontario industry still faces determined and well-prepared competition. It underlines the ongoing need for OCM to continue its role of helping companies become aggressive international competitors through the application of microelectronics to their products.

With this pressing concern in mind, your Board has approved a Strategic Business Plan for years 1986/87 to 1990/91. Given industry's demonstrated need for OCM's services — indeed, the Centre was established on the recommendation of industry and OCM's record of achievement, your Board strongly urges that continuation of the Centre beyond its original five year mandate — which ends in September 1987 — be given top priority. The Centre's directors and management look forward to working with you and your officials in shaping the government's long term technology strategies which will strengthen OCM's ability to serve its client base and to maintain its status as an anchor in Ontario's and this nations high technology infrastructure.

On a personal note, it has been a pleasure for me to be associated with the Centre for the past four years. As you know, my involvement began on the Ottawa-Carleton Microelectronics Development Centre Task Force which sought to have a microelectronics centre established. It continued as a member of the OCM Advisory Committee which developed the Centre's structure and directions. In 1982 I was appointed founding Chairman of the Board of Directors, a position that will now be served by Charles Williams.

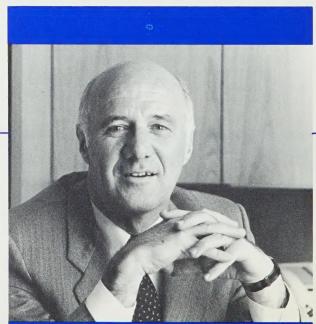
Mr. Williams is a highly regarded member of Ontario's high technology community and has been an active Board member since 1982. His appointment will ensure all-important continuity in the Centre's service to help Ontario industry gain a

firmer footing in the new economic order, one highly dependent on microelectronics technology for a share of global markets.

For everyone who has shared in the Centre's progress from a glimmering idea to its current position as the nation's leading microelectronics design centre — colleagues, Board members past and present, the president, management and staff, and all the beneficiaries of the Centre's services — thank you.

Gordon W. Gow Chairman of the Board

C.M. (Chuck) Williams was appointed Chairman of the Ontario Centre for Microelectronics Board of Directors in April 1986. First named to the Board in 1982, Mr. Williams has played a leading role in Canada's microelectronics industry, serving in several management capacities with Hewlett-Packard Company, and as President and Chief Executive Officer of Geac Computers Corporation Limited. He is also a past Chairman of the Canadian Advanced Technology Association.



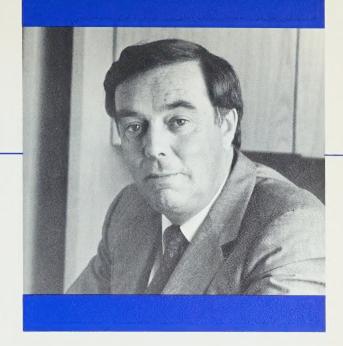
# PRESIDENT'S REPORT

The Ontario Centre for Microelectronics achieved numerous milestones during 1985/86 in our continuing and urgent mission to bring the competitive advantages of microelectronics technology to Ontario's small and medium sized industrial core.

Efforts have emphasized creating awareness among engineers and corporate executives of the strategic advantages of using Application Specific Integrated Circuits (ASICs) and then providing the engineering and other resources necessary to add these customized microchips to products. Unlike standard integrated circuits, the impact of ASICs on a company extends far beyond technical considerations. Improved manufacturing, lower inventories of components, higher product reliability, reduced product size and lower power consumption and many other factors touch all aspects of a company's technical, manufacturing and marketing strategies.

To accelerate the reach of this message, OCM combined marketing and technical forces with the federally funded University of Toronto Microelectronics Development Centre in Toronto. The combined engineering staff of 35 has access to computer libraries containing the design tools of more than 12 silicon foundries. This specialized group, the largest independent ASIC design team in Canada and perhaps North America, ensures Ontario industry has technical advantages second-to-none in creating products for world markets.

Extensive attention during the year focussed on helping engineers overcome low awareness and misconceptions about ASIC technology. OCM research has found that many engineers falsely perceived that the design process is costly, lengthy and difficult. This is no longer true. The technology is affordable in annual product volumes of less than 1,000, putting the technology within the reach of even the smallest firm. Design and fabrication times are now measured in weeks not months and



computer design tools make the process easy to do even for the novice.

In addition to new courses on IC design, the Centre has also stimulated growing interest among engineers in using our hands-on design program which allows engineers to design their own ASICs with the Centre's computer aids under the guidance of OCM staff engineers. Larger companies are using the program to familiarize themselves with the technology before making a major capital expenditure on their own equipment. Smaller companies have ongoing access to design and test facilities they could not afford on their own.

The Centre's Product Design Group also increased its activity during the year. Engineers in this group help mainly small firms apply microprocessor technology. Many firms have emphasized the important role the Centre fills as a neutral third party to which they feel comfortable in bringing their ideas. An invaluable part of this process is the provision of technical feasibility studies for new product ideas before proceeding with the design and prototype development.

In total, 242 technical contacts were generated during the year resulting in 87 proposals. Thirty-

one contracts were booked during 1985/86. Since the Centre's inception 110 contracts have been generated from 325 proposals and 1,000 technical contacts.

OCM's Technical Information Services (TIS) also achieved a record year. This section is a comprehensive repository of information on microelectronics which has on-line access to all major data bases around the world. TIS not only provided strategic research material for the Centre's technical proposals but also satisfied nearly 400 detailed external requests during the year from manufacturers, consultants, and various government departments and agencies. A growing number of users contract TIS to provide literature searches to keep updated on competitive happenings in their particular industry. TIS patent searches also prevent R&D departments from "reinventing" a product which is now estimated to consume at least 10 per cent of R&D efforts.

The diffusion and awareness process of microelectronics technology is another important focus of OCM's activity, which involved 66,500 public contacts throughout the year. A significant part of that program is OCM's 40 courses and technical training seminars which were attended by 510 senior executives and electronics engineers. OCM has also placed a growing emphasis on in-house sessions as the most cost-effective means to reach a large number of employees in a single company. OCM initiated a successful textbook Miroprocessor Software Project Management published by

Marcel Dekker Inc. of New York, based on the Centre's well attended course of the same title.

OCM has made it easier for companies to examine opportunities in new markets, develop more creative products and make microelectronics more affordable through a variety of cooperative seminars and continued its long-standing tradition of serving the information needs of professional and technical groups and industry associations.

An active leader in the development of the Canadian microelectronics infrastructure, OCM actively supports the Canadian Semiconductor Design Association, the Canadian Microelectronics Corporation, the Canadian Association of Microelectronics Centres, the Canadian Advanced Technology Association, the York Technology Association and the Ottawa-Carleton Research Institute as well offering ongoing assistance to secondary school technology instructors, community colleges and universities.

To members of the Board of Directors and staff and clients who shaped this year of progress, I extend my sincere gratitude.

Lionel Hurtubise

President

# PRODUCT DESIGN SERVICES CASE STUDIES

Since inception the Ontario Centre for Microelectronics Product Design Group has helped small and medium-sized companies and individuals in traditional segments of the economy establish the technical feasibility of new product ideas and, where appropriate, translate the concepts or inventors' prototypes into products for world markets.

# The following examples are representative of that process:

The first pertains to a circuit board that expands the market base for a name-brand microcomputer. The Apple MacIntosh isn't normally associated with desktop engineering, mainly because of its lack of speedy, accurate number crunching. With OCM's assistance an Ottawa start-up firm is changing that with its new add-on coprocessor.

The new company and product are the creation of Emile State, a PhD mathematician who left the academic world and opened Ottawa's first computer retail store in 1978. While turning the operation into the city's largest Apple Computer dealership, Dr. State taught himself microcomputers. Just about the time of the Mac's introduction the two backgrounds came together.

His first step was to take a course on semicustom logic at the Centre. Then, he presented his idea formally to OCM's Product Design Group, which developed the conceptual design and produced a manufacturing prototype.

"OCM filled its role to perfection in this project," State says. "They proved the design and transferred enough technology so we were able to evolve the product ourselves."

The playing-card size board performs all popular floating point engineering functions including trigonometric, exponential and logarithmic.

State is eyeing a retrofit market of about 10% of the 500,000 Macs now in use as well stimulating new sales among scientists, engineers, mathematicians and accountants. His product is expected to be available worldwide this year through a network now being set-up by Coprocessor Research Inc., the new firm.

"The original idea was to create this product to help Compumart become a stronger competitor," State recalls. "Instead we've developed a worldclass product far beyond those expectations."

In another example, OCM's Product Design Group helped a Gananoque farmer develop a milk flow meter that's capable of performing an invaluable economic service for dairy farmers around the world.

The new product is a real breakthrough, doing its measuring job more accurately and conveniently than current methods while adding other features.

Normally making this type of measurement requires a cumbersome 3-foot long, 4-inch diameter plastic and stainless steel tube that must be criti-

Emile State developed, with OCM's help, an add-on coprocessor for the Apple MacIntosh.



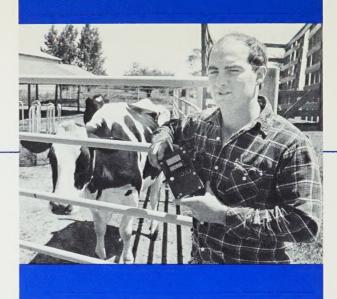
cally mounted in a stationary and level position while each cow is milked. Then, there's an added problem of having to wash part of the apparatus by hand after measurement.

Despite the inconvenience, the information fills a valuable function. Knowing the amount of milk produced by each cow can be used by the farmer to develop a feeding strategy that favours the best milkers. Depending on the size of the herd, this information can increase a farmer's daily income by \$50 or more.

To simplify the measuring procedure, Steve Mangan set about to solve the problem with an easy-to-use, easy-to-clean hand-held version based on microelectronics. Using his rudimentary knowledge of microelectronics, he did all the patentable work on his milk flow meter. OCM turned his invention into a saleable product.

"For the small inventor, OCM makes an ideal technical partner," Mangan recalls. "They are a neutral party I could trust with my idea. They bridged the gap between the invention and the manufacturing stage while still giving me control over my invention. For me, any money invested by the Province in this assistance is worth it and will be returned many times through jobs and export sales."

The new "Milkulator," which will work in any milking installation, gives the weight of milk for each cow in pounds or kilograms, records the milk's temperature and allows milk samples to be drawn for laboratory analysis. With 45,000 dairy farmers and 2.4 million cows in Canada, the Milkulator faces a large domestic market. Mangan has also international patents pending and plans to sell the device in the United States and abroad. "This might be the only piece of milk recording equipment Canada will ever export," notes Mangan of a market dominated by foreign suppliers.



Steve Mangan holds his "Milkulator" which measures the weight of milk produced by each cow in pounds or kilograms, records the milk's temperature and allows milk samples to be drawn for laboratory analysis.

Robert Elliott, president of Cosenor International Inc. of Markham knows the value of a feasibility study. In fact his flagship product almost stayed permanently on the drawing board because of one.

In 1984, Elliott approached OCM to evaluate a carbon monoxide sensor he was developing for residential and commercial markets to warn occupants of the presence of the invisible and potentially deadly gas.

Cosensor approached the Centre to perform a complete technical evaluation. OCM engineers examined the circuitry, made suggestions to improve the design and manufacturability and then identified all the costs associated with the product.

"OCM said it would cost three times more than our own estimate showed, to make the sensor," Elliott said. "We almost threw in the towel. But it forced us to re-examine our plans to find a way to make the revised pricing fit the market."

Cosensor is now producing 4,000 units a month to supply its growing network of independent dealers in Canada and the United States. Elliott estimates that export sales will eventually total \$100 million to \$200 million.

# INTEGRATED CIRCUIT DESIGN SERVICES CASE STUDIES

One of the Centre's major endeavors during 1985/86 was to make it easier for a broader base of firms to gain access to the benefits of Application Specific Integrated Circuits (ASICs). This was accomplished through an agreement to combine OCM's technical and marketing forces with the University of Toronto Microelectronics Development Centre (MDC) of Toronto.

The first project involving both Centres was producing the key component in a feature-packed, hand-held digital capacitance meter for Daetron Electronics Co. of Toronto.

The customized microchip was designed by MDC on one of its Mentor workstations. The circuit schematics in the form of a netlist and test patterns were supplied on a computer tape to OCM, where the data was verified and a layout for the chip was produced using the MEDS software. Additional checking was performed on the layout using ECAD's Dracula verification tools. The final version of the design was sent to GTE in the United States for chip fabrication.

Daetron President John Bergeron says the concept for the capacitance meter began three years ago. Facing the need to protect his design from potential imitators, and to squeeze more features into his product, he was pointed to consider an ASIC as a potential solution. The customized IC not only met his needs, but, as an unforseen bonus, substantially increased the accuracy of the meter.

But, as someone new to ASIC technology, Bergeron needed assistance and was directed to MDC by a Toronto-based Industrial Development Officer with the National Research Council. The final product was unveiled to great interest at Electronicom '85, the IEEE (Institute of Electrical and Electronic Engineers) trade show in Toronto.

Bergeron is now concentrating on building up inventory of his new MC300 capacitance meter and establishing a Canadian distributor network. Once the meter is firmly rooted in the Canadian market, he plans to sell it abroad.

Retailing for just under \$150, Bergeron says his meter has features lacking in competitive products that cost as much as four times more. "Other meters just read capacitance but the MC300 does 20 "different things," says Bergeron. "As far as I know, no other hand-held digital capacitance meter in the world provides so many functions for its price."

Looking back on the experience, Bergeron said he would have run into problems in achieving both the design protection and the accuracy without the ASIC and help from MDC and OCM. "I would also have had to reduce the features and take more time to complete the project."

Equally important was the final price of the chips. "Without OCM's volume buying agreements, I couldn't have afforded the ASIC," says an enthusiastic Bergeron. "OCM was able to get a 10,000-unit price for the 500-ASICs I needed. That's very important for a small business."

Not only does OCM provide hands-on design services for Ontario engineers but the Centre continues to offer the complete ASIC design service to firms under contract. OCM designs all chips on a

OCM President Lionel Hurtubise (left) and MDC Executive Director Adel Sedra (right) sign agreement to jointly serve microchip design needs of companies in Toronto and Southwestern Ontario.



fixed price basis. This virtually eliminates any financial risk a client has in achieving the chip specified.

Starnav Corporation of Ottawa exemplifies why ASIC technology is growing as the preferred choice in product design.

"We had to reduce circuitry to its minimum size and cost to keep our satellite navigation receiver competitive," according to Luis Hebling, Starnav's vice-president of engineering. "The only feasible solution became an ASIC."

What pleased Helbling was that the technology was easy to apply, requiring only good engineering practices. Starnav designed and specified the circuit. OCM then converted the circuit into a single microchip and returned tested prototypes.

ASICs are particularly effective for the lower volume requirements typical of small Canadian manufacturers. The single microchip can replace up to 40 or more conventional integrated circuits. Computer based design aids and reduced manufacturing costs now make these chips affordable alternatives even in volumes of 1,000, and turnaround time is now measured in weeks.

Starnav, formed two years ago by Helbling and its president, Michael Dyment, now employs 13. Following extensive market research, the two former Canadian Marconi Company employees took aim at the marine market for a position locator based on the Navstar satellite system scheduled for late 1987.

Competition is already heating up to supply receivers for a variety of markets for the system which uses 21 orbiting satellites. Starnav is intent on being a major player in what President Dyment will only quantify as "a huge market." The Navstar



Starnav president Michael Dyment and vice president of engineering Luis Helbing examine a board containing the OCM designed chip for their new receiver.

positioning system is expected to replace all others currently in use for land, air and sea navigation.

Still under development, Starnav's 1.6 MHz receiver will enter field testing this year. Geared for world markets, it is targeted mainly for new installations on fishing boats, tankers, freighters and passenger ships. In addition to basic features such as position coordinates accurate to within 100 meters anywhere in the world, Starnav plans to add numerous proprietary features. The receiver's extensive software and system design were developed in-house.

Although the Ontario Centre for Microelectronics designed the two Starnav chips from specifications supplied by the company, OCM also has a program that allows engineers to design their own chip using OCM's computer-aided design and simulation tools under the guidance of Centre staff.

# FINANCIAL STATEMENTS AND AUDITORS' REPORT

To Ontario Centre for Microelectronics and Minister of Industry, Trade and Technology of the Province of Ontario:

Delvitte Haskins & Sells

We have examined the balance sheet of the Ontario Centre for Microelectronics as at March 31, 1986 and the statements of operations, reserve for capital assets and changes in financial position for the year then ended. Our examination was made in accordance with generally accepted auditing standards, and accordingly included such tests and other procedures as we considered necessary in the circumstances.

In our opinion, these financial statements present fairly the financial position of the Centre as at March 31, 1986 and the results of its operations and the changes in its financial position for the year then ended in accordance with generally accepted accounting principles applied on a basis consistent with that of the preceding year.

Deloitte Haskins & Sells Auditors

April 25, 1986

# STATEMENT OF OPERATIONS

Year Ended March 31, 1986

		1985
REVENUES  Technical contracts and seminars  Technology Enhancement Program (Note 3)  Technology Upgrading for Manufacturers' revenue	\$1,255,216 (278,359) 14,228	\$ 921,801 (80,732)
Net Revenue	991,085	841,069
EXPENDITURES		
Advertising	69,570	24,124
Bad Debts	214,727	28,000
Computer Maintenance	335,564	219,637
Consulting	294,159	319,781
Depreciation and Amortization	767,305	587,008
Hotel and Equipment Rental	28,173	32,640
Postage	76,512	46,109
Printing	221,096	190,426
Recruiting and Relocation	1,369	35,500
Salaries and Benefits	1,825,278	1,592,807
Staff Development	18,411	37,508
Supplies and Services	232,751	169,359
Technical-3rd Party Costs	249,350	8,959
Telephone and Rent	285,748	273,085
Travel and Accommodation	174,056	140,853
Technology Upgrading for Manufacturers' expenses	14,228	
	4,808,297	3,705,796
EXCESS OF EXPENDITURE OVER REVENUE	3,817,212	2,864,727
CONTRIBUTION FROM PROVINCE OF ONTARIO (Note 4)	3,756,961	2,794,159
INTEREST INCOME (Note 5)	60,251	70,568
	\$ 12.88558 <del>4.8</del> 86	* <b>\$</b>
NET DEVENUE TO EVERIOR DATE OF SECURIOR STORES	eta au historii yeathan	
NET REVENUE TO EXPENSE RATIO (Excludes interest, depreciation and Technology Upgrading for Manufacturers')	24%	27%

# STATEMENT OF RESERVE FOR CAPITAL ASSETS

Year Ended March 31, 1986

	1986 (Carrier 1985		
CONTRIBUTIONS FROM PROVINCE OF ONTARIO (Note 4) Allocated to capital expenditures	\$1,000,038 🚿 \$1,190,278		
Less disposals	(16,281)		
	983,757. 1111,190,278		
TRANSFER TO OPERATIONS (Note 4)	767,305 ( 66) ( 66) ( 587,008		
	216,452		
BALANCE, BEGINNING OF YEAR	2,319,552 (4.1,716,282		
BALANCE, END OF YEAR	\$2,536,004 \$2,319,552		

# **BALANCE SHEET**

March 31, 1986

#### **ASSETS**

	1986 8/18/44 1985
CURRENT ASSETS	
Cash	\$ 800 500 80 \$ 185,136
Accounts receivable	406,334 Signal 152,912
Contracts in progress	126,847
Prepaid expenses	64,356 34 44,353
	598,037
FIXED ASSETS (Note 2)	2,536,004 2,319,552
	\$3,134,041 🚧 \$2,881,375
LIABILITIES	
CURRENT LIABILITIES	
Accounts payable and accrued charges	\$ 479,945 \$ 263,206
Deferred revenue	30,073 (4.4%) 25,185
Province of Ontario	88,019 40 273,432
	598,037 (%) 561,823
EQUITY	
RESERVE FOR CAPITAL ASSETS	2,536,004 22,319,552
	\$3,134,041 % \$2,881,375

Approved on behalf of the Board

Gordon W. Gow Chairman of the Board

Peter Vice
Director

# STATEMENT OF CHANGES IN FINANCIAL POSITION

Year Ended March 31, 1986

	1986
VORKING CAPITAL PROVIDED	
Operations	
Net revenue in the last of the first of the	
Contributions from Province of Ontario	
Interest of the second second relative and the control of the second sec	60,251 70,56
Add (deduct) items not affecting working capital	
Depreciation and amortization is a second se	767,305 587,00
Transfer from reserve for capital assets	(767,305) $(5.87,008)$
	4,808,297 3,705,79
Contributions from Province of Ontario for capital assets (net of disposals). The additional of the contribution of the contri	§ 983,757 (%) 1,190,27
	\$5,792,054 \$4,896,07
VORKING CAPITAL USED	h 4 000 005 600
Operations to the last the last the state of	\$4,808,297 \$3,705,79
Purchase of fixed assets (net of disposals)	983,757 1,190,27
	\$5,792,054 \$4,896,07

## NOTES TO THE FINANCIAL STATEMENTS

March 31, 1986

#### 1. SIGNIFICANT ACCOUNTING POLICIES

The financial statements have been prepared in accordance with generally accepted accounting principles, and reflect the following policies:

#### **Fixed Assets**

Fixed assets are stated at cost. Equipment and furniture are depreciated by the straight-line method at rates calculated to amortize the cost of the assets, less salvage value, over their estimated useful lives. Leasehold improvements are amortized by the straight-line method over the terms of the respective leases.

#### Contributions from the Province of Ontario

Contributions are made without reference to source or type of expenditure. The allocation shown in the financial statements is based on the capital assets expenditures and the balance is designated for operations.

Contributions for capital assets are credited to reserve for capital assets and recognized as income as the depreciation on the related assets are charged against operations.

Contributions for operations are recognized as revenue in the period in which they are committed by the Province. The excess of contributions received from the Province over net expenditures are accounted for as a debt to the Province.

Revenue Recognition

Contract revenue is recognized on the percentage-ofcompletion basis. Contracts or portions thereof, which are terminated prior to invoicing are not recognized as revenue. Any subsequent recoveries from clients become revenue when received.

Revenue from royalty agreements are recognized when received.

Contracts in progress

Contracts in progress represents the net realizable value of all unbilled customer work determined as a percentage of the total contract amounts.

2. FIXED ASSETS		1986		1985	
	Cost	Accumulated Depreciation and Amortization	Net Book Value	Net Book Value	Deprec- iation Rates
Technical equipment	\$3,554,261	\$1,372,323	\$2,181,938	\$1,859,484	20%
Office equipment	255,801	121,003	134,798	151,880	20%
Office furniture	324,928	158,594	166,334	226,297	20%
Leasehold improvements	205,968	153,034	52,934	81,891	3 Years
	\$4,340,958	\$1,804,954	\$2,536,004	\$2,319,552	

Depreciation and amortization for the year totalled \$767,305 (1985 - \$587,008).

The Centre's premises are occupied under a lease which expires September 30, 1987. The minimum annual rental under this arrangement is approximately \$249,000 in 1987.

performed by the Centre. Under the terms of the assis-

#### 3. TECHNOLOGY ENHANCEMENT PROGRAM

The Technology Enhancement Program (TEP) was established to provide assistance to corporations or individuals requiring microelectronic technology. The assistance is restricted to qualifying contract work

Details of the current year's amount are as follows:

tance a royalty agreement provides for repayment of the assistance from the benefits of the applied technology.

TEP contracts completed and in process \$362,867 Paid by clients 84,508 \$278,359 Amount included in contributions from Province of Ontario

#### 4. CONTRIBUTIONS FROM PROVINCE OF ONTARIO

	1986	1985
Total contributions	\$3,788,000	\$3,418,000
Less amounts assigned to capital assets (net of disposals 1986 — \$16,281 1985 — Nil)	983,757	1,190,278
	2,804,243	2,227,722
Transfer from reserve for capital assets	767,305	587,008
	3,571,548	2,814,730
Decrease (increase) in refund of excess contributions	185,413	(20,571)
Operations contributions for year	\$3,756,961	\$2,794,159

#### 5. INTEREST INCOME

Interest is recognized as revenue only in the hands of the Treasurer of Ontario, as only the Treasurer of Ontario may earn interest unless permitted otherwise in legislation. Interest is treated as a contribution from the Province in determining percentage of operating costs recovered.

#### 6. COMPARATIVE FIGURES

Certain of the prior year's comparative figures have been reclassified to conform to current year's presentation.

#### 7. BAD DEBTS

Bad debts include \$130,000 resulting from the financial failure of one high technology company.

# ONTARIO'S TECHNOLOGY CENTRES

# A PROVINCE-WIDE NETWORK TO ASSIST ONTARIO INDUSTRY TO MEET THE COMPETITIVE CHALLENGE

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